

IN THE CLAIMS

Claim 1 (currently amended):

1. A communications system, comprising:
a distribution frame, the distribution frame including
a system controller,
at least one shelf, and
a shelf controller corresponding to the at least one shelf, wherein
the shelf controller is operably coupled to the system controller, and
at least one interconnection panel within the at least one shelf, the
interconnection panel including a plurality of termination ports for cross-
connecting signal channels; and
an intelligent fiber distribution operations administration and maintenance
apparatus ~~attached~~ coupled to the distribution frame external to the at least one
shelf and operably ~~connected to~~ coupled between the interconnection panels and
the shelf controller for operating the distribution frame and monitoring and
indicating cross-connections between the interconnection panels.

Claim 2 (Original):

2. The communications system as recited in claim 1, wherein the
distribution frame has a shelf cover, and wherein the intelligent fiber distribution
operations administration and maintenance apparatus is attached to the shelf
cover.

Claim 3 (Original):

3. The communications system as recited in claim 1, wherein the
intelligent fiber distribution operations administration and maintenance apparatus
is configured as a shelf cover for the distribution frame.

Claim 4 (Original):

4. The communications system as recited in claim 1, wherein the
distribution frame includes at least one controller that monitors permissible

connections and cross-connections of the at least one interconnection panel, and wherein the intelligent fiber distribution operations administration and maintenance apparatus includes an interface operably connected to the at least one controller.

Claim 5 (Original):

5. The communications system as recited in claim 1, wherein the intelligent fiber distribution operations administration and maintenance apparatus includes an input interface for the interconnection panel termination ports.

Claim 6 (Original):

6. The communications system as recited in claim 1, wherein the intelligent fiber distribution operations administration and maintenance apparatus includes signal buttons and indicators corresponding to the interconnection panel termination ports.

Claim 7 (Original):

7. The communications system as recited in claim 6, wherein the indicator further comprises an LED indicator.

Claim 8 (currently amended):

8. The communications system as recited in claim 1, wherein the intelligent fiber distribution operations administration and maintenance apparatus ~~includes~~ is configured to be operably connected to at least one input device selected from the group consisting of a keypad, a keyed display, a keyless display, an LCD display screen, and a touch screen.

Claim 9 (Original):

9. The communications system as recited in claim 1, wherein the communication system further comprises a plurality of interconnection panels and wherein the intelligent fiber distribution operations administration and

maintenance apparatus further comprises an array of user inputs that correspond to the interconnection panel termination ports.

Claim 10 (currently amended):

10. An intelligent fiber distribution operations administration and maintenance apparatus for operably coupling to a distribution frame, wherein the distribution frame has a system controller, at least one distribution shelf, the distribution shelf having a shelf controller and a plurality of interconnection panels, wherein the shelf controller is coupled to the system controller, and wherein the interconnection panels include a first plurality of termination ports for connecting to a first signal channel and a second plurality of termination ports for cross-connecting to a second signal channel from a different interconnection panel, the intelligent fiber distribution operations administration and maintenance apparatus comprising:

a plurality of signal buttons corresponding to the plurality of interconnection panels, wherein the signal buttons are attached to the distribution frame and operably connected to the interconnection panels;

a plurality of indicators corresponding to the plurality of signal buttons; and
an interface operably connecting the plurality of signal buttons to the shelf controller,

wherein the signal buttons energize their corresponding indicator and, based on information from the shelf controller, the indicators identify termination ports that are connected, to be connected or that need maintenance, and

wherein the intelligent fiber distribution operations administration and maintenance apparatus is configured to be operably coupled to the distribution frame external to the at least one distribution shelf.

Claim 11 (Original):

11. The apparatus as recited in claim 10, wherein the distribution frame includes a cover for protecting the distribution shelf, and wherein the intelligent

fiber distribution operations administration and maintenance apparatus is adapted to attach to the distribution frame cover.

Claim 12 (Original):

12. The apparatus as recited in claim 10, wherein the intelligent fiber distribution operations administration and maintenance apparatus is configured as a protective cover coupled to the distribution frame for protecting the distribution shelf.

Claim 13 (Original):

13. The apparatus as recited in claim 10, further comprising a user input apparatus operably connected to the interface.

Claim 14 (Original):

14. The apparatus as recited in claim 10, wherein the intelligent fiber distribution operations administration and maintenance apparatus is arranged as an array of user inputs that correspond to the interconnection panel termination ports.

Claim 15 (currently amended):

15. The apparatus as recited in claim 10, wherein the distribution frame includes a cover for protecting the distribution shelf, wherein the intelligent fiber distribution operations administration and maintenance apparatus further comprises a planar ~~substrate~~ structure connected to the cover, and wherein the plurality of signal buttons and the plurality of indicators are coupled to the planar substrate.

Claim 16 (Original):

16. The apparatus as recited in claim 15, wherein the planar substrate has a first surface for coupling to the cover and an opposing second surface, and

wherein the plurality of signal buttons and the plurality of indicators are coupled to the second surface of the planar substrate.

Claim 17 (Original):

17. The apparatus as recited in claim 10, wherein the plurality of indicators further comprise LED indicators.